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## Solar Photovoltaic

*Solar photovoltaic* (solar cell) is a direct conversion of the sun's electromagnetic radiation to electricity, and is not limited by Carnot cycle efficiency considerations.



## Solar Thermal

*Solar thermal* is the use of a vapor power cycle that requires the concentration of solar energy to reach high temperatures and reasonable thermal efficiency. Solar thermal, energy concentration devices include parabolic mirrors and arrays of focused mirrors (heliostats).



### What do I need to do to take advantage of the fee waiver?

Building permit and plan review fees are based on a calculation using a couple of different factors. One of those factors is the project's total valuation.

Applicants need only to provide a cost estimate breakdown for the use of the solar technology so the amount can be deducted from the valuation prior to calculating these fees.

This information is indicated in all building permit application packets maintained by the Community Development Department. For more information, contact Development Services at 623.222.3000. Packets can also be downloaded from the website at [www.surpriseaz.com](http://www.surpriseaz.com).

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### HELPFUL RESOURCES:

U.S. Department of Energy [www.energy.gov](http://www.energy.gov).

Find installer license information from Arizona Registrar of Contractors at [www.azroc.gov](http://www.azroc.gov).

Learn more about energy savings from Arizona Public Service at [www.aps.com](http://www.aps.com).

## SOLAR ENERGY DEVICES PERMIT FEE INCENTIVE PROGRAM





## SOLAR ENERGY DEVICES

As part of an ongoing commitment to sustainability, the Surprise city council unanimously approved an ordinance on September 25, 2008, that waives all permitting and plan review fees for residential and commercial solar photovoltaic or solar thermal systems. This action comes on the heels of Surprise being named a "Greening Greater Phoenix Community," by the Greater Phoenix Economic Council.

The mayor and council gave clear direction that solar is a key element in our sustainability commitment. This program is a useful tool in encouraging more people to adopt solar by helping to lower the upfront costs.

Photovoltaic systems include typical solar collection panels that are used to generate electricity in a home or business. Thermal systems include technology used in large generating facilities.

<sup>1</sup>There has never been a better time to switch to solar technology.

### RESIDENTIAL:

The roof over your head can do more than provide shelter; it can also help to free you from dependence on the fossil fuel electricity provided by your local utility company.

When you choose solar to install a solar system on your home, you take the first step towards regaining control of your energy costs.



You also take an active role in choosing the source of your electric power. Without making any changes in your lifestyle, you can enjoy the knowledge that you are drawing from a clean, renewable energy source: sunlight.

### Why go solar?

#### The benefits and returns are enormous!

When you use solar energy, you are drawing from a clean source: sunlight. No fossil fuels are burned, and no toxic gases are produced. Your use of solar energy helps to combat climate change and helps to reduce our collective dependency upon fossil fuel sources.

### COMMERCIAL:

Rising electric rates can quickly erode profit margins. If you've ever wanted to control the energy costs for your business, it's time to investigate solar.

As the energy market becomes increasingly volatile, state and federal governments have responded by creating tremendous financial incentives for businesses to choose solar electric power. When you choose solar technology to power your business, you take the first step towards regaining control of your energy costs.

<sup>1</sup>Information obtained by [www.solarcity.com](http://www.solarcity.com)



Some solar energy devices include the following components:

- **Solar Panels.** Solar panels are made up of photovoltaic cells, which convert sunlight into DC power.
- **Inverter.** An inverter is a device that converts DC power from the solar panels into the standard AC power that is used in your facility.
- **Electric Panel.** The electric panel, or breaker box, contains the fuses and breakers that distribute electricity throughout your facility.
- **Utility Meter.** The utility meter measures the flow of electricity between your facility and the utility grid.
- **Utility Grid.** The utility grid is the network of distribution wires that is maintained by your local electric utility. You will remain connected to the grid after your solar system is in place.